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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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09/963,888

09/19/2001

Gregory Engargiola

9216

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7590

01/30/2004

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EXAMINER

CLINGER, JAMES C

ART UNIT

PAPER NUMBER

2821

DATE MAILED: 01/30/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

09/963,888

Applicant(s)

ENGARGIOLA, GREGORY

Examiner

Jim Clinger

Art Unit

2821

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 08 February 2002.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-13 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-13 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 08 February 2002 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. §§ 119 and 120

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 13) ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.  
a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_ 6) ☐ Other: \_\_\_\_\_

## DETAILED ACTION

### ***Claim Rejections - 35 USC § 112***

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 1, 5-6, 10 and 13 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 1, it is not clear how only two radiator arms can enclose the conductor. Also, it appears there should be an "a" before the word "truncated" in line 4.

Claim 5, it is not clear if "the pyramid" is the same as the "square pyramidal conductor". No antecedent basis for "the pyramid". Also, the pyramid has an infinite number of axis and it is not recited which axis is to be considered in determining the patentability of this claim.

Claim 6, this claim is vague because there is no antecedent basis for the limitation "the inclination angle" and its meaning is not clear.

Claims 10 and 13, these claims are vague because it is not clear if the limitation "short wire" refers to the wire length or its connection to ground, and for lack of antecedent basis for "the narrow end".

***Claim Rejections - 35 USC § 102***

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claim 8 is rejected under 35 U.S.C. 102(b) as being anticipated by  
Kuo(4,630,063).

Claim 8, figure 4 discloses a log-periodic antenna with two arms(50 & 51) and a shield(41).

***Claim Rejections - 35 USC § 103***

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 1-7 and 9-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kuo in view of Gelin(3,987,456).

Claim 1, figure 4 of Kuo discloses two radiator arms(50 & 51) on opposite sides of a conductor(41). The conductor disclosed in Kuo is two adjacent coaxial cables(43 & 44), not a square pyramidal conductor. Figure 7 of Kuo discloses a square pyramidal support(60) for a log-periodic antenna. Figure 7 of Gelin discloses a pcb(21) whose

ground plane would form a pyramidal conductor which acts as an electromagnetic shield for radiating elements.

Claims 2 and 4, the outer conductors of the coaxial cables(43 & 44) and arms(50 & 51) disclosed in figure 4 of Kuo are low loss.

Claim 3, the the arms(52 & 53) disclosed in figure 4 of Kuo are log periodic and orientated as recited.

Claim 5, the arms(52 & 53) and coaxial cables(43 & 44) disclosed in figure 4 of Kuo are positioned as rcited.

Claims 6-7, the pcb ground plane and radiating elements(21) disclosed in figure 7 of Gelin are orientated as recited.

Claims 9 and 11-12, figure 7 of Kuo discloses four arms(56-59) enclosing a conductor which is the outer surface of the four coaxial cables.

Claims 10 and 13, figure 1a of Gelin discloses a feed(25) at the tip of the pyramid and Kuo discloses a threaded connection is well known in the antenna art and an obvious modification to both disclosures.

It would have been obvious to one of ordinary skill in the art at the time of the invention to use a square pyramidal conductor as disclosed in Gelin in the place of the outer coaxial cable conductor disclosed in Kuo for improved isolation between radiating elements.

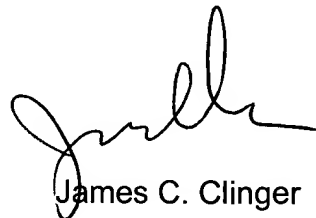
### ***Correspondence***

7. Any inquiry concerning this communication or earlier communications from

the examiner should be directed to Examiner Jim Clinger whose phone number is (571) 272-1820.

Any inquiry of a general nature or relating to the status of this application should be directed to the Technology Center whose telephone number is (703) 308-0956.

Papers related to Technology Center 2800 applications only may be submitted to Technology Center 2800 by facsimile transmission. Any transmission not to be considered an official response must be clearly marked "DRAFT". The faxing of such papers must conform with the notice published in the Official Gazette, 1096 OG 30 (November 15, 1989). The Technology Center Fax Center number is (703) 872-9306.



James C. Clinger